

# Habitat Restoration in the Sacramento-San Joaquin Delta and Suisun Marsh

**BACKGROUND** In 2012, the Delta Independent Science Board (Delta ISB) selected habitat restoration as its first review theme as substantial habitat restoration began in the Sacramento-San Joaquin Delta and Suisun Marsh. The aims of the review were to strengthen individual restoration projects, produce greater cohesion among restoration efforts, and solidify the scientific foundation of restoration plans and activities.

**APPROACH** The Delta ISB met with, listened to, and interviewed representatives from many entities involved in or charged with implementing restoration plans. The Delta ISB also examined documents describing restoration efforts, attended presentations at the 2012 Bay-Delta Science Conference that emphasized habitat restoration, and drew upon prior experiences with habitat restoration within and outside of the Delta.

## FINDINGS

- A regional goal for Delta restoration was not specified
- Goals were clear for individual projects (especially those in the regulatory arena)
- Realistic performance measures were needed
- Projects were not strategically linked to provide landscape connectivity
- Timescales for assessment were too short to include environmental changes
- Adaptive management and long-term monitoring were not adequately funded
- Models were needed to help predict outcomes and relate site-scale to whole-Delta restoration processes
- Plans and activities needed better integration and communication
- Scientific expertise was being used but not always at the planning stage
- Stakeholders (e.g. landowners) were involved early in planning



## RECOMMENDATIONS

1. Coordinate and integrate projects to capitalize on synergies and complementarities
2. Consider climate and environmental uncertainty in the design and implementation of projects
3. Prioritize proposed projects
4. Coordinate and integrate science to inform and guide restoration actions, adaptive management, and prioritization
  - Provide **long-term funding** and independent oversight of monitoring
  - **Assess uncertainties** using models, scenarios, and risk analysis
  - Involve objective, independent, and rigorous **peer reviews**
  - **Review and use science** to support restoration activities
  - **Compile comprehensive data** on Delta restoration activities; map all projects
  - **Synthesize** research findings and **communicate** to planners and implementers

You can find the Delta ISB's original review (2013) at:

<http://deltacouncil.ca.gov/docs/delta-isb-isb-products/delta-independent-science-board-final-report-habitat-restoration>

Questions? Contact Joy Zedler of the Delta ISB via e-mail at [jbzedler@wisc.edu](mailto:jbzedler@wisc.edu)

The Delta ISB is mandated by the 2009 Reform Act "to provide oversight of the scientific research, monitoring, and assessment programs that support adaptive management of the Delta through periodic reviews of each of those programs."

## Examples of Restoration in the Delta and Suisun Marsh



Tule Red Tidal Wetlands Restoration Project  
Photo credit: DWR Pixel Gallery



Lindsey Slough Restoration Project  
Photo credit: Maggie Christman



Rush Ranch Tidal Habitat Restoration  
Photo credit: Catarina Pien

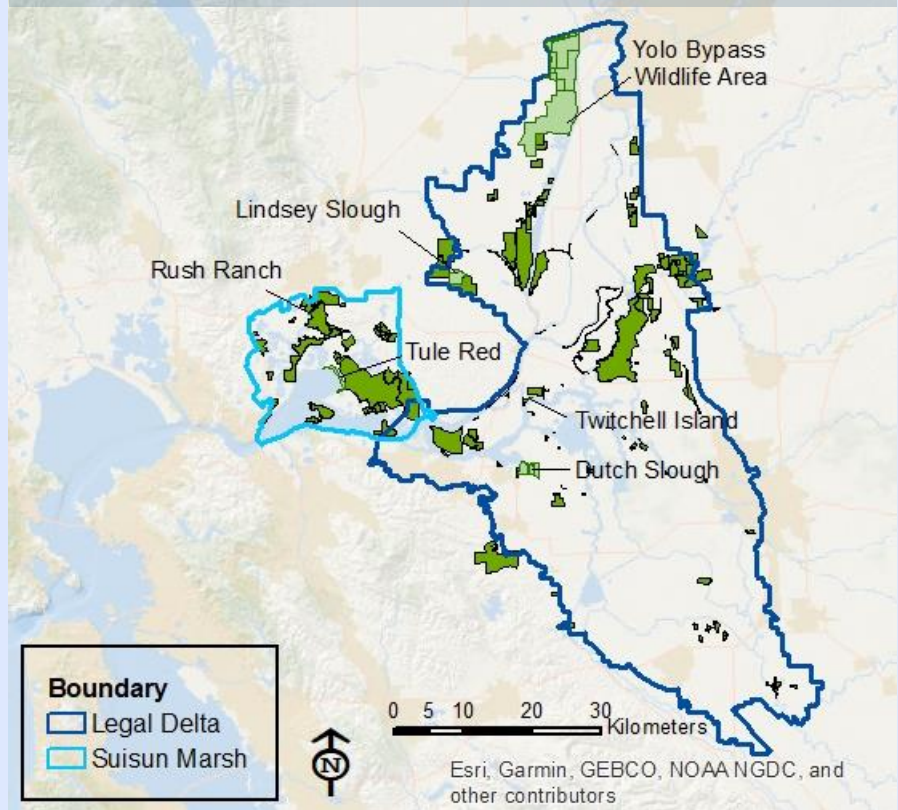


Yolo Bypass Wildlife Area  
Photo credit: CDFW Flickr



Dutch Slough Tidal Marsh  
Photo credit: USFWS National Digital Library

Shapefiles of ecosystem projects were compiled by Ron Melcer and Kate Anderson (Delta Stewardship Council) using information from EcoAtlas and other resources. This map represents planned, implemented, and completed ecosystem projects, but may not be comprehensive due to ongoing updates in restoration. Plots in lighter green represent projects acknowledged in this summary sheet.



## Updates in Delta Restoration

When the Delta ISB's review was written in 2013, the Bay Delta Conservation Plan (BDCP) was a major restoration plan, calling for 100,000 acres of habitat restoration in the Delta in a 50-year period. Since then, the BDCP has evolved into *EcoRestore*, which is a habitat restoration initiative aimed to restore a minimum of 30,000 acres of tidal wetland and floodplain habitat over 5 years (by 2020).

At the time the 2013 review was written, the Ecosystem Restoration Program (ERP) was one of the major programs funding and implementing restoration. ERP grant funding is now winding down, while the Delta Conservancy's Proposition 1 Ecosystem Restoration and Water Quality Grant Program has become one of the active funders of restoration projects in the Delta region.

Although much has changed since the review, many of the Delta ISB's recommendations are still relevant today.